

Application No. 10/607,947  
Amendment dated February 6, 2006  
Reply to Office Action of December 9, 2005

Docket No.: BA1-02-0395 (02-0395)

### AMENDMENTS TO THE CLAIMS

1. (Currently Amended) ~~An~~ A load carrying expansion joint for joining sections of a structure, the expansion joint comprising:  
a first load-bearing support member including:  
a first generally planar structural member having an upper face that is configured to slidably support a bottom face of a traffic bearing surface of at least one section of a structure receivable thereon; ~~and~~  
second and third generally planar structural members each having an upper face that is configured to receive a bottom face of a portion of a bottom surface of the at least one section of the structure receivable thereon and attachable thereto, the second and third members being substantially co-planar with each other and being substantially parallel to the first member, the second and third members being vertically spaced-apart from and below the first member; and  
fourth and fifth structural members that connect the first member with the second member and the first member with the third member, respectively; and  
an expansion device ~~interposed~~ that provides a lateral connecting structure between the second and third members, the expansion device including:  
a central portion that is attachable to a second support member that supports the bottom face of the bottom surface of the at least one section of the structure thereon; and  
end portions each having an upper face that receives a bottom face of the second and third members thereon and a bottom face that is receivable on an upper face of the second support member.

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2. (Previously Presented) The expansion joint of Claim 1, wherein the expansion device defines a hole for receiving a fastener therein.
3. (Original) The expansion joint of Claim 2, wherein the at least one section includes adjacent sections of the structure.
4. (Previously Presented) The expansion joint of Claim 1, wherein the second and third members each define a hole for receiving a fastener therein.
5. (Original) The expansion joint of Claim 4, wherein the at least one section is configured to allow sliding of an overlapping portion of a second section thereon.
6. (Original) The expansion joint of Claim 1, wherein the expansion joint is made of a composite material.
7. (Previously Presented) The expansion joint of Claim 1, wherein the expansion joint and the at least one section are made of materials with equivalent expansion characteristics.
8. (Previously Presented) The expansion joint of Claim 1, wherein the structure includes a bridge and the at least one section includes panel sections of a bridge deck.
9. (Original) The expansion joint of Claim 1, wherein the expansion device includes an expansion spring.
10. (Original) The expansion joint of Claim 1, wherein the expansion device includes a stiffening member.
11. (Currently Amended) ~~An~~ A load carrying expansion joint for joining adjacent sections of a structure, the expansion joint comprising:  
a first composite support member including:  
a first generally planar composite member having an upper face that is configured to slidably support a bottom face of a traffic-bearing surface of adjacent composite sections of a structure receivable thereon; and

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second and third generally planar composite members each having an upper face that is configured to receive a bottom face of a portion of a bottom surface of the adjacent sections of the structure receivable thereon and attachable thereto, the second and third members being substantially co-planar with each other and being substantially parallel to the first member, the second and third members being vertically spaced-apart from the first member below the first member; and

fourth and fifth composite members that connect the first member with the second member and the first member with the third member, respectively; and

an expansion spring interposed that provides a lateral connecting structure between the second and third members, the expansion spring including:

a central portion that defines a hole for receiving a fastener therein for attaching the expansion spring to a second support member that supports the bottom face of the bottom surface of the adjacent sections of the structure thereon; and

end portions each having an upper face that receives a bottom face of the second and third members thereon and a bottom face that is receivable on an upper face of the second support member.

12. (Original) The expansion joint of Claim 11, wherein the expansion joint is made of composite material.
13. (Previously Presented) The expansion joint of Claim 11, wherein the expansion joint and the adjacent sections are made of a material with equivalent expansion characteristics.
14. (Previously Presented) The expansion joint of Claim 11, wherein the structure includes a bridge and the adjacent sections include panel sections of a bridge deck.
15. (Withdrawn) An expansion joint for joining overlapping sections of a structure, the expansion joint comprising:

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a first generally planar member configured to be able to slide on a first portion of a first section of a structure thereon, the first portion of the first section being configured to be able to slide on an overlapping first portion of a second section of the structure thereon;

second and third generally planar members configured to be able to slide on the second portion of the first and second sections of the structure thereon, respectively, the second and third member being substantially co-planar with each other and being substantially parallel to the first member, the second and third members being vertically spaced-apart from the first member, the second and third members each defining a hole for receiving a fastener therein; and

a stiffening member interposed between the second and third members, the stiffening member accommodating expansion of the second and third members.

16. (Withdrawn) The expansion joint of Claim 15, wherein the expansion joint is made of composite material.

17. (Withdrawn) The expansion joint of Claim 15, wherein the expansion joint is made of a material with equivalent expansion characteristics.

18. (Withdrawn) The expansion joint of Claim 15, wherein the structure includes a bridge and the section include panel sections of a bridge deck.

19. (Withdrawn) A bridge comprising:

at least a first section of panel bridge deck;

at least a second section of panel bridge deck; and

at least a first expansion joint interposed between the at least first and second sections, the at least first expansion joint including:

a first generally planar member configured to slide on first portions of the first and second sections of the panel bridge deck thereon;

second and third generally planar members configured to slide on second portions of the first and second sections of the panel bridge deck thereon, the second and third members

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being substantially co-planar with each other and being substantially parallel to the first member, the second and third member being vertically spaced-apart from the first member; and  
an expansion device interposed between the second and third members.

20. (Withdrawn) The bridge of Claim 19, wherein devising device defines a hole for receiving a fastener therein.
21. (Withdrawn) The bridge of Claim 20, wherein the first and second sections of panel bridge deck are adjacent sections of bridge.
22. (Withdrawn) The bridge of Claim 19, wherein the second and third members each define a hole for receiving a fastener thereon.
23. (Withdrawn) The bridge of Claim 22, wherein the first section of panel bridge deck is configured to allow sliding of the overlapping portion of the second section of honeycomb bridge deck.
24. (Withdrawn) The bridge of Claim 19, wherein the first and second sections of panel bridge deck and the expansion joint are made of composite material.
25. (Withdrawn) The bridge of Claim 19, wherein the first and second sections of panel bridge deck and the expansion joint are made of a material with equivalent expansion characteristics.
26. (Withdrawn) The bridge of Claim 19, wherein the biasing device includes an expansion spring.
27. (Withdrawn) The bridge of Claim 19, wherein the biasing device includes a stiffening member.
28. (Withdrawn) A method of assembling a structure, the method comprising:  
attaching an expansion joint to a support beam of a structure;  
allowing to slide a first section of the structure on the expansion joint;  
attaching the first section to the expansion joint;

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allowing to slide a second section of the structure on the expansion joint; and  
attaching the second section to the expansion joint.

29. (Withdrawn) The method of Claim 28, wherein the structure includes a bridge.
30. (Withdrawn) The method of Claim 29, wherein the first and second sections include panel bridge deck sections.
31. (Withdrawn) The method of Claim 30, wherein the panel bridge deck sections and the expansion joint are made of same materials.
32. (Withdrawn) The method of Claim 31, wherein the panel bridge deck sections and the expansion joint are made of a composite material.
33. (Withdrawn) The method of Claim 31, wherein the panel bridge deck sections and the expansion joint are made of a material with equivalent expansion characteristics.
34. (New) A load-bearing expansion joint for joining sections of a structure, the expansion joint comprising:  
a load-bearing support member including:  
a first generally planar load-bearing member;  
second and third generally planar load-bearing members that are substantially coplanar with each other and that are substantially parallel to the first member, the second and third members being vertically spaced-apart from the first generally planar load-bearing member; and  
fourth and fifth generally planar load-bearing members that connect the first generally planar load-bearing member with the second generally planar load-bearing member and the first generally planar load-bearing member with the third generally planar load-bearing member, respectively, such that load is evenly distributable from

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the first generally planar load-bearing member to the second and third generally planar load-bearing members; and  
an expansion device that provides a lateral connecting structure between the second and third generally planar load-bearing members.

35. (New) The expansion joint of Claim 34, wherein the expansion joint is made of a composite material.
36. (New) The expansion joint of Claim 34, wherein the expansion device includes an expansion spring.
37. (New) The expansion joint of Claim 34, wherein the expansion device includes a stiffening member.